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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------|------------------|
| 10/632,409 | 08/01/2003 | Zhong Ye | TEPS-0029 | 4380 |
| 27964 | 7590 | 03/28/2005 | EXAMINER | |
| HITT GAINES P.C. P.O. BOX 832570 RICHARDSON, TX 75083 | | | HAN, YOUNGHUIE JESSICA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2838 | |

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/632,409

Applicant(s)

YE, ZHONG

Examiner

Y. J. Han

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/1/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7-12, 14-17, 19, and 20 rejected under 35 U.S.C. 102(b) as being anticipated by Mandelcorn (5,459,392).

Mandelcorn discloses a current-controlled frequency-modulated power factor corrector having an input that receives an input current at an input voltage and providing an output voltage at an output thereof comprising an electromagnetic interference filter (10), coupled to the input, that receives the input current; a rectifier (12), coupled to the EMI filter, that provides a rectified value of the input current and the input voltage; a converter (boost converter, see fig. 2), coupled to the rectifier, that includes a power switch (50); and a controller (I.C. Chip 100) that regulates the output voltage and modulates a switching frequency of the power switch, comprising a sensing circuit (R54) that detects a sense current representative of the input current to the power factor corrector, a frequency modulation circuit (I.C. Chip 100), coupled to the sensing circuit, that provides a signal that causes at least one of an increase of the switching frequency of the power switch when the input current increases, and a decrease of the switching frequency of the power switch when the input current decreases, and a pulse width modulation control circuit (302), coupled to the sensing circuit and the frequency modulation circuit, that supplies a drive signal to the power switch, a frequency of the drive signal being modulated as a function of the

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sense current and the signal from the frequency modulation circuit. With respect to the variation of the switching frequency, the reference discloses "that waveform causes the frequency of the pulse width modulated output of pulse width modulator/comparator 302 to vary, for example, between frequencies of the order of 40 KHz and 70 KHz." (col. 5, lines 54-57) Moreover, at col. 6, lines 34-50, Mandelcorn clearly describes how to achieve the desired frequency variation as a function of the sensed input current. Hence the maximum and the minimum switching frequency are inherently disclosed. As for the frequency modulation circuit comprising a filter (C400), a plurality of resistors (R400, R401), a diode (any one of diodes shown in figure 3) and a current-controlled device (any one of NPN transistors), these components are clearly shown in figures 1 and 3 which are incorporated in I.C. Chip 100.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mandelcorn (5,459,392) in view of Kawashima et al (5,793,623).

Mandelcorn discloses the invention substantially as claimed but does not disclose a sensing circuit comprising an amplifier. Kawashima et al, however, teaches that the use of such feature is well known in the art. See Figure 18 where the input current detecting circuit 65 is connected to the amplifier 67. Therefore, it would have been obvious to one having ordinary skill in the art to employ the amplifier in the circuit of Mandelcorn, as taught by Kawashima et

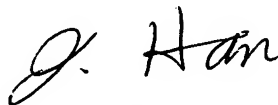
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al, to obtain the claimed invention for the purpose of boosting the detected input current so that the switching frequency may be varied as desired.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. J. Han whose telephone number is 571-272-2078. The examiner can normally be reached on Mon-Fri 5:30am-2:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'J. Han', is positioned above the printed name and title.

J. Han
Primary Examiner
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